

REMARKS

This Amendment responds to the Office Action dated September 6, 2005. By way of this amendment, claims 1-33 have been canceled. The cancellation of these claims should in no way be construed as acquiescence to any of the rejections stated. These claims were canceled solely to expedite the prosecution of the present application. Additionally, Applicant does not intend to abandon the scope of the non-elected claims as originally filed or as withdrawn by the Examiner, but may pursue the remaining claims, either by petition for further review or in a divisional application. Applicant hereby submits new claims 34-41 for consideration. Applicant respectfully submits that the new claims more precisely define Applicant's invention. Applicant submits that no new matter has been added and that the new claims do not subject an undue burden upon the Examiner to examine.

35 U.S.C. § 112 REJECTIONS/OBJECTIONS

Applicants respectfully submit that new claims 34-41 correct the rejections cited for indefiniteness and are now in proper form. The objections under 37 CFR 1.75 for duplication have been overcome with the new claims, therefore, Applicant respectfully requests reconsideration.

35 U.S.C. § 103(A) REJECTIONS

Claims 1,2, 17, 18 and 33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Rotter (US Patent Number 5,323,750) in view of Wolff et al. (US Patent Number 4,278,587). Also, claims 13-16 and 19-30 are rejected, as previously applied to claims 1,2, 17, 18 and 33, and in further view of Hisada (US Patent Number 4,022,114). Lastly, claims 31 and 32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Rotter in view of Wolff et al., and in further view of Hisada and Hansen et al. (US Patent Number 4,022,114). Applicant respectfully traverses these rejections and submit that new claims 34-41 are now distinguished from the cited prior art and define patentable subject matter.

Specifically, new independent claim 34 includes the subject matter of original claim 1, 17, and 24. As such, claim 34 now recites an actuator housing comprising *a pair of flanges cooperatively arranged to form the actuator housing, each flange being coated with a resin-containing coating composition and an actuator diaphragm compressively retained between the flanges. Claim 34 recites further an actuator diaphragm formed from a rubber*

composition comprising a copolymer rubber that is a copolymer of an unsaturated nitrile and a conjugated diene proportioned in a range of 10 to 45 parts by weight unsaturated nitrile to 55 to 90 parts by weight conjugated diene, a plasticizer for the copolymer rubber in an amount of 1 to 30 parts by weight plasticizer per hundred parts by weight of the copolymer rubber, a silica filler in an amount of about 10 to about 80 parts by weight silica per hundred parts by weight of the copolymer rubber, a coupling agent in an amount from 0.1 to 20 parts per hundred weight of copolymer rubber, and a vulcanizing agent for the copolymer rubber in an amount of about 0.01 to about 10 parts per hundred weight of the copolymer rubber. Most significantly, new independent claim 34 further recites that when the actuator diaphragm is held under sufficient compression, a bond is formed between the plasticizer in the diaphragm and the resin-containing coating composition on the flanges for increased retention of the actuator diaphragm between the flanges.

That is, as stated in the pending application -paragraph [0021], any structure, such as the flanges shown in Fig. 1, reference numeral 14, coated with the specified resin-containing coatings placed in intimate contact with the rubber composition claimed herein, such as the actuator diaphragm 16 in Fig.1, will produce a bond between the plasticizer inherent in the rubber composition and the resin inherent in the flange coating (i.e. paint). The unexpected bonding that occurs provides superior performance over the prior art in that a continuous bond is formed about the periphery of the flanges without the necessity of preparation of additional bonding agents or processes traditionally contemplated.

Applicant submits that in order to establish a prima facie case of obviousness, three fundamental criteria must be met: 1) there must be a suggestion or motivation in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the prior art reference(s) must teach or suggest all the claim limitations. Based upon the teachings of the cited prior art, Applicant respectfully submits that none of these criteria have been met. Applicant further asserts that from the cited references, there is no suggestion, motivation, or desirability of doing what the inventor has done, and as such, no prima facie case of obviousness has been established.

The office action relies upon Rotter and Wolff et al. in view of Hisada and in further view of Hansen et al. to reject Applicant's claims under consideration. Applicants respectfully submit that new claims 34-41 are clearly distinguished from the cited references.

Specifically, the office action states that Hisada teaches securing diaphragms to metallic surface by an adhesive. Applicants concede that Hisada references a non-descript adhesive in col. 7, lines 13-17 and in claim 5, but assert that these teachings are inadequate to inform one of ordinary skill in the art of the invention as Applicant has now claimed. The mere suggestion of an adhesive bond between the diaphragm and flange in Hisada does not suggest the formation of a bond resulting from interactions between those two components. Further, nowhere in Hisada is there a reference to a resin-containing coating of the flanges. Applicants assert that one of ordinary skill in the art recognizes that the teachings of Hisada contemplate a conventional type of adhesive to secure the diaphragm to the actuator.

Applicants also assert that the teachings of Hansen et al., in view of the prior references, do not expressly or impliedly suggest Applicant's claimed bonding effect. The teachings in Hansen et al. relate to the bonding of a reinforcing material 134 and 136 to an elastomeric sealing layer 132. Similar to Hisada, Hansen et al. contemplates a separate adhesive placed between the reinforcing material 134 and 136 and the elastomeric sealing layer 132 to create the bond junctures 142. See col. 8, lines 16-45 (reciting various adhesive including resins, epoxides, reclaimed elastomers, and techniques including brush coating, spraying, dipping, roller means, and heat sealing). Applicants submit that Hansen et al. merely shows conventional bonding methods and does not rely upon inherent material properties within the apparatus components to form a bond.

Reiterating, the bonding action disclosed by the Applicant is the result of an unexpected interaction between a plasticizer, used for providing the low temperature performance of the hardened rubber composition, and a resin inherent in a coating (i.e. the paint) on the each flange of the actuator housing. As is known, to support the inference that Applicant's claimed invention is obvious with respect to the cited references, the references must either be expressly or impliedly suggested the claimed invention or within the office action, a convincing line of reasoning must be presented as to why one of ordinary skill in the art would have found the invention, as claimed, to have been obvious. See *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). The cited references present no such line of reasoning. The prior art must disclose at least a suggestion of an incentive for a claimed combination of elements in order to establish a *prima facie* case of obviousness. No such suggestion is apparent from the cited references, and consequently, the obviousness rejection

must be withdrawn. See *In re Sernaker*, 217 U.S.P.Q. 1 (Fed. Cir. 1983); see also *Ex parte Clapp* at 973.

Therefore, Applicants submit that for at least these reasons there is simply no teaching in the combined references that would rendered Applicant's claimed invention obvious and therefore any rejections based on this proposed combination of references should be withdrawn.

CONCLUSION

For the reasons stated above, Applicants submit that the specification and claims are in proper form and clearly define patentability over the prior art. Therefore, reconsideration of the application is respectfully requested. If the Examiner does not find that Applicants' claims are now in condition for allowance, Applicants respectfully submit that the foregoing remarks and amendments have placed the application in better form for appeal.

If, in the opinion of the Examiner a telephone conference would expedite prosecution of the subject application, the Examiner is invited to call the undersigned attorney. The Commissioner is directed to charge or debit any additional fees or refunds required, to Deposit Account No. 13-2855 of Marshall, Gerstein & Borun LLP.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 13-2855, under Order No. 06005/39710 from which the undersigned is authorized to draw.

Dated: January 6, 2006

Respectfully submitted,

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